

2.3 BIOLOGICAL ENVIRONMENT

2.3.1 NATURAL COMMUNITIES

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant, or animal species. This section also includes information on wildlife corridors, fish passage conditions, and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Fish passage is the ability of the fish to migrate upstream. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in **Section 2.3.5, Threatened and Endangered Species**. Wetlands and other waters are also discussed below in **Section 2.3.2, Wetlands and Other Waters**.

AFFECTED ENVIRONMENT

Information in this section is based on the Natural Environment Study (NES)(Caltrans 2015g) approved in July 2015.

The biological study area (BSA) for the project includes the maximum physical footprint of the Build Alternatives, including all areas where ground disturbance would occur from the construction of the proposed improvements (e.g., construction staging areas, demolition and earthmoving activities), areas of right-of-way to be obtained for the project.

The BSA is located in a highly developed urban area with buildings, parking lots, roads, and a portion of Pine Creek that has been channelized and is concrete lined. The natural communities within the BSA are altered and subject to disturbance from human activities.

Formal studies of biological resources within the BSA were conducted between January 2014 and August 2014, and again in January 2015. **Table 2.3-1** lists the specific dates and personnel that conducted the biological surveys. All acreages (e.g., impact areas and land cover types) discussed in this section reflect the current project limits and final BSA.

Table 2.3-1 Biological Surveys and Personnel

Survey	Date	Personnel
Condor Country Consulting		
Land cover mapping	January 8, February 28, 2014	Ted Robertson, Roxanne Hulme
	January 21, 2015	Ted Robertson, Christian Knowlton
Wetland delineation	May 26, June 6, 2014	Ted Robertson, Christian Knowlton, Chris Thayer
	January 21, 2015	Ted Robertson
Tree inventory	May 6, 7, 8, 16, 19, 20, 23,	Christian Knowlton, Mark Mummert

Survey	Date	Personnel
	2014	
	May 20, 2014	Mark Mummert, Chris Thayer
	May 23, 2014	Chris Thayer, Christian Knowlton
	January 21, 2015	Christian Knowlton, Julie Shaw
Botanical survey: early spring	April 2, 8, 2014	Roxanne Hulme, Denise Wight
Botanical survey: late spring	June 3, 4, 2014	Chris Thayer, Christian Knowlton
Botanical survey: late summer	August 27, 2014	Ted Robertson, Chris Thayer
Botanical survey of small project extension	January 21, 2015	Ted Robertson, Christian Knowlton
Coast Ridge Ecology		
Bat emergence survey	March 24, 2014	Patrick Kobernus
	April 7, 9, 2014	Patrick Kobernus, Gregory Pfau, Tida Leagnavar
Bat daytime roost survey	April 9 and May 7, 2014	Patrick Kobernus, Gregory Pfau, Tida Leagnavar
Hanson Environmental, Inc.		
Fish passage study	May 7, 2014	Dr. Charles H. Hanson

Habitat Types

Table 2.3-2 lists the habitat types present within the BSA. Biologists surveyed a total of 32.1 acres and determined that planted mixed oak woodland, non-native woodland, ruderal, and landscaped habitat types are located within the BSA. The remaining areas within the BSA are developed urban lands, which include areas with buildings, parking lots, roads and a channelized portion of Pine Creek. A description of each habitat type as it exists within the BSA is provided below. None of the habitat types within the BSA are sensitive natural communities.

Table 2.3-2 Natural Communities within BSA

Natural Community	Total Acreage
Planted Mixed Oak Woodland	1.5
Non-native Woodland	7.5
Ruderal	14.0
Landscaped	9.1
Total	32.1

Planted Mixed Oak Woodland

Planted Mixed oak woodlands are dominated by native oak species and may have a variety of non-native grass species in the vegetation beneath the main tree canopy. Planted Mixed oak woodland occurs in small patches in the BSA, with both coast live oak (*Quercus agrifolia*) and interior live oak (*Quercus wislizenii*). The largest area of planted mixed oak woodland is found at the southern end of the BSA just north of Walnut Creek and on the west side of SR 242. The planted mixed oak woodland in the BSA is not contiguous with woodlands outside of the BSA.

Non-native woodland

Non-native woodlands are dominated by exotic tree species which often have been planted. Non-native woodland in the BSA is dominated by ornamental and other introduced species of trees that have been planted or naturalized. Non-native woodland was generally characterized by a sparse understory of ruderal plant species. Common trees in this community in the BSA include: Peruvian pepper tree (*Schinus molle*), coast redwood (*Sequoia sempervirens*), and bluegum (*Eucalyptus globulus*). Non-native woodland is located along both the east and west sides of SR 242 and does not appear to be regularly mowed, trimmed, pruned, or maintained with irrigation.

Ruderal

Ruderal habitats are generally defined as native vegetation that has been disturbed and are usually dominated by exotic species. Ruderal areas are located throughout the BSA, commonly along either side of SR 242 and the local roadways, and are typically dominated by low growing, weedy non-native species including red-stemmed filaree (*Erodium cicutarium*), common wild oat (*Avena fatua*), and cultivated radish (*Raphanus sativus*). Ruderal areas within the BSA do not appear to be regularly maintained but may be mowed annually for fire prevention, with the exception of the East Bay Municipal Utility District (EBMUD) right-of-way located west of SR 242. EBMUD maintains this area for necessary upgrades or repairs to the underground water lines.

Landscaped

Landscaped communities are generally under direct human management. The landscaped community within the BSA occurs around buildings and roadways and is regularly mowed, trimmed, pruned, and irrigated. The majority of the landscaped areas within the BSA are located adjacent to the SR 242 on- and off-ramps at Clayton Road and Concord Avenue. Additionally, landscaped areas are also located adjacent to driveways near Franquette Avenue and the Park-and-Ride lot at Clayton Road. The plants in the landscaped community vary throughout the BSA and include Aleppo pine (*Pinus halepensis*), coast redwood, ornamental ceanothus (*Ceanothus* sp.), cultivated rose (*Rosa* sp.) oleander (*Nerium oleander*), and creeping Bermuda-grass (*Cynodon dactylon*). The species within the landscaped community may change throughout the year as gardening crews remove old plants and replant with new species. Very few native trees were observed in the landscaped community within the BSA. Some of the identified native trees are located adjacent to the southbound on-ramp from Clayton Road and within the northbound loop on-ramp from eastbound Concord Avenue.

Trees

Within the BSA, the 848 trees documented include 51 species, both native and non-native. The diameter at breast height (DBH) of these trees ranges from 4 to 76 inches. Two tree species, Western sycamore (*Platanus racemosa*) and willow (*Salix* sp.), are considered riparian when naturally occurring within riparian communities. However, within the BSA, the two western sycamores and three willows are located in landscaped and non-native woodland communities, which are upland communities rather than riparian communities. These five trees appear to have been planted and at least partially maintained with irrigation. Due to human action and their presence in upland communities, these trees are not considered riparian. There is no riparian habitat within the BSA.

Wildlife within Natural Communities

The natural communities form the basis of the wildlife habitats of the project area. Common wildlife species that are habituated to human activities and disturbance are found in the natural communities within the BSA. Bird species include killdeer (*Charadrius vociferus*), black phoebe (*Sayornis nigricans*), and western kingbird (*Tyrannus verticalis*). Mammal species include raccoon (*Procyon lotor*), California ground squirrel (*Otospermophilus beecheyi*), and striped skunk (*Mephitis mephitis*). In addition, a number of bats were observed flying out of the culvert beneath the Market Street/Clayton Road bridge structure, as further described in **Section 2.3.4, Animal Species**.

Wildlife Corridor/Fish Passage

The BSA is located in a highly developed urban area with buildings, parking lots, roads, and a channelized portion of Pine Creek. The natural communities within the BSA are altered and subject to disturbance from human activities. As a result, no wildlife corridors or fish passageways are present.

Habitat conditions within the concrete channel of Pine Creek were evaluated to determine if it is suitable for steelhead salmon (*Oncorhynchus mykiss*) and Chinook salmon (*O. tshawytscha*) passage. Habitat conditions were not considered to be suitable for salmonid passage during the May 2014 survey when water depths within the lower portion of the channel were very shallow. An impediment or barrier to adult upstream migration may also result during periods of high flow water velocities because the concrete channel does not provide refuge from the fast moving waters for salmonids.

ENVIRONMENTAL CONSEQUENCES

Build Alternative 1

No sensitive natural communities were identified within the BSA. All improvements associated with the project would be located in urban/ruderal/landscaped areas that do not support special-status species. Most species within the BSA are habituated to human activities and disturbance

owing to the developed surroundings, as further described in **Section 2.3.4, Animal Species**.

Impacts to these natural communities are not considered a substantial adverse effect to biological resources.

Build Alternative 1 would impact approximately 299 trees. These trees are likely to be removed due to grading and paving associated with construction. Most of the trees that would be removed are located within landscaped, planted mixed-oak woodland, or non-native woodland land cover areas.

Build Alternative 2

Given that the improvements for Build Alternative 2 are in the same non-sensitive natural communities as Build Alternative 1, there would be no difference in the environmental effects. However, owing to differences in the proposed ramp alignments, Build Alternative 2 would potentially impact approximately 271 trees. The trees that would be removed are located within landscaped, planted mixed-oak woodland, or non-native woodland land cover areas.

No-Build Alternative

The No-Build Alternative assumes that SR 242 would remain in its existing condition and no further action or improvements would occur. Under this alternative, the existing roadways would remain unchanged except for planned and programmed improvements outside of the BSA. The No-Build Alternative would therefore not affect the natural communities surrounding the project limits.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are necessary because the Build Alternatives would not have an impact on natural communities.

CUMULATIVE IMPACTS

The cumulative impacts setting includes sensitive habitat types within and surrounding the BSA. Cumulative effects to natural communities would occur if planned and foreseeable development results in the removal of sensitive habitat types, when taken in combination with the proposed project, and could reduce sensitive habitat types on a regional-level. The Concord General Plan EIR determined that most development proposed in the region is situated on infill sites or land contiguous with existing development where sensitive habitat does not exist. Additionally, the General Plan EIR determined that proposed development would not result in impacts to wildlife corridors or migratory fish passageways with adherence to General Plan policies. Therefore, no cumulative effect related to natural communities is anticipated.

2.3.2 WETLANDS AND OTHER WATERS

REGULATORY SETTING

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the United States Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide permit may be permitted under one of USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the State level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see **Section 2.2.2, Water Quality and Storm Water Runoff** for additional details.

AFFECTED ENVIRONMENT

Information in this section is based on the NES (Caltrans 2015g) approved in July 2015. Biologists conducted surveys in May 2014, June 2014, and January 2015 to delineate jurisdictional wetlands and other waters of the U.S., which are regulated by the USACE, and other federal waters of the State, regulated by the RWQCB and CDFW. The delineations were conducted in accordance with USACE guidance.

No potentially jurisdictional wetlands were identified within the BSA. Pine Creek is the only potential jurisdictional water of the US within the BSA. Areas within the BSA are mostly developed and have been highly disturbed from commercial development, roads, and highways.

Additionally, SR 242 is an elevated highway with sloped embankments, ditches, and storm drain features. Thirteen ditches are located within the BSA. All ditches were determined to be non-jurisdictional per published USACE guidelines, under Section 404 of the Clean Water Act, the RWQCB under the Porter-Cologne Act, and under California Fish and Wildlife Code 1601-1603. These thirteen roadside ditches did not contain any hydric soil indicators, the dominant vegetation was not hydric, and were not connected to any upstream wetland.

The Mokelumne Aqueduct runs underground along the length of the project limits, to the west of SR 242. The aqueduct conveys drinking water and is owned and managed by EBMUD; therefore, the Mokelumne Aqueduct is not considered to be a jurisdictional water feature.

Table 2.3-3 summarizes potential jurisdictional water features within the BSA. The preliminary delineation of the BSA determined that there are 1.479 acres of Waters of the U.S., as measured from the ordinary high water mark (OHWM), located within Pine Creek. Within the BSA, Pine Creek flows through a 50 foot wide U-shaped concrete channel with approximately 10 foot high vertical concrete walls. The OHWM was determined from the water stains on the vertical concrete wall.

CDFW jurisdiction typically extends to the top of bank (TOB) and the edge of the associated riparian habitat. The TOB was delineated at the top of the concrete wall. Because the OHWM was directly below the TOB, the two lines overlap.

The National Wetlands Inventory (NWI) classifies the Pine Creek stream channel as a riverine, upper perennial with an unconsolidated bottom that is permanently flooded (NWI classification code = R3UBH), although the streambed is now concrete. There is no plant life inside the concrete channel except for alga.

Within the BSA, Pine Creek is a concrete-lined channel. There is no soil and there is no woody, emergent, or riparian vegetation in Pine Creek in this area. Pine Creek originates on the slopes of Mount Diablo and flows generally northwest. Galindo Creek, Arroyo Del Cerro, Little Pine Creek, and several unnamed tributaries flow into Pine Creek. Pine Creek flows into Walnut Creek which flows north into Suisun Bay approximately 5.9 miles from the BSA. Pine Creek is 1.479 acres in size and is approximately 1,120 feet long and 56 feet wide within the BSA.

Table 2.3-3 Potential Jurisdictional Waters within the BSA

Jurisdiction	Total Area (acre)	Impact Area (acre)
USACE Waters of the U.S. (within OHWM) - Pine Creek	1.479	0.0
CDFW (within TOB) - Pine Creek	1.479	0.0

ENVIRONMENTAL CONSEQUENCES

The only water feature identified within the BSA is located within the footprint of both Build Alternatives 1 and 2. Project impacts discussed below apply to both Build Alternatives 1 and 2.

Build Alternatives 1 and 2

There is no potential for impacts to jurisdictional wetlands by either of the Build Alternatives.

Pine Creek was identified as the only potentially jurisdictional USACE water feature within the BSA. As discussed in **Chapter 1.0, Proposed Project**, both Build Alternatives 1 and 2 would construct new single-span ramp structures over the creek. Implementation of the Build Alternatives would not directly impact any potentially jurisdictional waters of the U.S. No further coordination or formal jurisdictional determination is needed with USACE.

Temporary Construction Impacts

Indirect effects to the natural and beneficial floodplain values of Pine Creek could occur from erosion during construction work that involves grading and other earth moving activities that can contribute large amounts of sediment and silt to storm water runoff. This sediment and silt can deteriorate the water quality of the waters that receive storm water runoff from within the project limits. **Section 2.2.2, Water Quality and Storm Water Runoff**, addresses potential adverse effects to water quality anticipated during construction. Implementation of the avoidance and minimization measures identified in this earlier section would reduce adverse water quality effects to Pine Creek.

No-Build Alternative

The No-Build Alternative will make no physical or operational improvements to SR 242 or the connecting roadways within the BSA. The No-Build Alternative would therefore not affect wetlands and other waters.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

As discussed above, the Build Alternatives would not directly impact any potentially jurisdictional waters of the U.S. See **Section 2.2.1, Hydrology and Floodplain**, and **Section 2.2.2, Water Quality and Storm Water Runoff (Measures WQ-1, WQ-2, and WQ-3)** for a more detailed analysis of the avoidance measures that would be implemented to protect water quality. Implementation of these measures (**Measures WQ-1, WQ-2, and WQ-3**) would provide the avoidance and minimization measures required to minimize the indirect impacts to waters of the U.S. located within the BSA.

CUMULATIVE IMPACTS

The cumulative impacts setting includes wetlands and other waters within and surrounding the BSA. Cumulative effects to wetlands and other waters would occur if planned and foreseeable development results in substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act, when taken in combination with the proposed project, and could significantly degrade federally protected waters on a regional-level. The General Plan EIR determined that any potential impacts to wetlands and other waters resulting from proposed development would be less than significant with implementation of regulatory requirements and General Plan policies.

2.3.3 PLANT SPECIES

REGULATORY SETTING

The U.S. Fish and Wildlife Service (USFWS) and CDFW have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see **Section 2.3.5, Threatened and Endangered Species**, in this document for detailed information about these species.

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100-21177.

AFFECTED ENVIRONMENT

Information in this section is based on the NES (Caltrans, 2015g) approved in July 2015. The identification of special-status plant species with potential to occur in the region is based on a search of the USFWS Species List Database (see **Appendix I**) and the CNPS Inventory of Rare and Endangered Plants. The California Natural Diversity Database (CNDDB) was queried for all occurrence records within a nine-quadrangle search, centering around the Walnut Creek USGS quadrangle that includes the BSA. Field surveys were also conducted during the flowering periods for those plant species with the potential to occur within the BSA (see **Table 2.3-1**). No special status plant species were observed in the BSA during the botanical surveys.

Table 2.3-4 lists the special-status plant species listed by the CNDDB search. The table includes the potential for the species to occur within the BSA, depending on the presence of habitat elements and proximity to known occurrences in the area.

ENVIRONMENTAL CONSEQUENCES

The BSA encompasses the footprint of both Build Alternatives. No special-status plant species were identified within the BSA. Project impacts discussed below apply to both Build Alternatives 1 and 2.

Build Alternatives 1 and 2

No impacts to special-status plant species are expected from project construction because no special-status plant species were observed within the BSA.

No-Build Alternative

The No-Build Alternative assumes that SR 242 would remain in its existing condition and no further action or improvements would occur. Under this alternative, the existing roadways would remain unchanged except for planned and programmed improvements. The No-Build Alternative would therefore not affect special-status plant species.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are necessary because the Build Alternatives would not have an impact on special-status plant species.

CUMULATIVE IMPACTS

The cumulative impacts setting includes special-status plant species within and surrounding the BSA. Cumulative effects to special-status plant species would occur if planned and foreseeable development results in the removal of special-status plant species, when taken in combination with the proposed project, and could reduce special-status plant species on a regional-level. The General Plan EIR determined that proposed development in the area could potentially result in removal or mortality of special-status plant species, which would be a cumulative effect. As discussed, no special-status species are located within the BSA; therefore, the Build Alternatives would not contribute to a cumulative effect.

Table 2.3-4 Potential Occurrence of Special-Status Plant Species within the BSA

Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	CNPS 1B.2	Found on gravelly slopes, grasslands, coastal bluff scrub, openings in woodland, often on serpentinite soils; from 10-1640 ft. of elevation.	No potential to occur. No serpentinite or gravelly substrate present.
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk- vetch	CNPS 1B.2	Occurs on alkaline substrates in playas, valley and foothill grassland on adobe clay, and vernal pools between 3-195 ft. elevation; blooms March – June.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat; slightly to moderately alkaline soils exist between I-680 and SR-242.
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heartscale	CNPS 1B.2	Occurs in chenopod scrub, meadows and seeps, valley and foothill grassland on sandy, saline or alkaline substrates between 0-1835 ft. elevation; blooms April – October.	No potential to occur. No alkaline or sandy substrates onsite, only nonsaline to slightly saline soils between I-680 and Solano Way; only disturbed annual grassland present within project area.
<i>Atriplex depressa</i>	brittlescale	CNPS 1B.2	Occurs in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools on alkaline clay substrates between 1- 3-1050 ft. of elevation; blooms April – October.	Low potential to occur. Clay soils occur between I-680 and Solano Way; slightly to moderately alkaline soils exist between I-680 and SR-242; only disturbed annual grassland present within project area.
<i>Atriplex persistens</i>	vernal pool smallscale	CNPS 1B.2	Alkaline vernal pool from 30-375 ft. elevation; blooms June – October.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat; slightly to moderately alkaline soils exist between I-680 and SR-242.

Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Blepharizonia plumosa</i>	big tarplant	CNPS 1B.1	Occurs on clay substrates in valley and foothill grassland between 100-1650 ft. of elevation; blooms July – October.	Low potential to occur. Clay soils occur between I-680 and Solano Way; only disturbed annual grassland present within project area.
<i>California macrophylla</i>	round-leaved filaree	CNPS 1B.1	Occurs in cismontane woodland, valley and foothill grassland on clay soils between 50-3930 ft. of elevation; blooms March – May.	Low potential to occur. Clay soils occur between I-680 and Solano Way; only disturbed oak woodland and annual grassland present within project area.
<i>Calochortus pulchellus</i>	Mt. Diablo fairy-lantern	CNPS 1B.2	Found on north-facing wooded slopes, rarely within chaparral, riparian woodland, and valley and foothill grassland; between 100-2755 ft. of elevation; blooms April – June.	No potential to occur. No north-facing wooded slopes present.
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	CNPS 1B.1	Occurs in alkaline valley and foothill grassland between 3-750 ft. of elevation; blooms May - November; nearest CNDDB occurrence on developed segment of Pacheco Boulevard is eliminated; occurrence 1.5 mi north on McNabney marsh.	Low potential to occur. Slightly to moderately alkaline soils exist between I-680 and SR-242; only disturbed annual grassland present within project area.
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	CNPS 1B.2	Coastal prairie, coastal salt marsh and swamp, alkaline springs, chaparral, seeps, meadow and vernal pool grassland, often on alkaline substrate; ranges from 0-1375 ft. in elevation; blooms May – November.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat; no other preferred habitat types exist onsite; slightly to moderately alkaline soils exist between I-680 and SR-242.

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Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Chloropyron molle</i> ssp. <i>hispidum</i>	hispid bird's-beak	CNPS 1B.1	Alkali playa, meadow, seep, playa within valley and foothill grasslands from 3-505 ft. elevation; blooms June – September.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat; slightly to moderately alkaline soils exist between I-680 and SR-242.
<i>Cordylanthus mollis</i> ssp. <i>mollis</i>	Soft Bird's-beak	FE 1B.2	Soft bird's-beak is found predominantly in the upper reaches of salt grass / pickleweed marshes at or near the limits of tidal action. It is associated with pickleweed or Virginia glasswort (<i>Salicornia virginica</i>), saltgrass (<i>Distichlis spicata</i>), fleshy or marsh jaumea (<i>Jaumea carnosa</i>), alkali seaheath (<i>Frankenia salina</i>) and seaside arrowgrass (<i>Triglochin maritima</i>).	No potential to occur. Tidal limits do not reach the project site. No habitat present.
<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	CNPS 2B.1	Occurs in coastal, brackish or fresh marshes and swamps between 0-655 ft. in elevation; blooms July – September.	No potential to occur. No habitat present.
<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>	Suisun thistle	FE/ CNPS 1B.1	Tidal salt marsh and coastal wetlands from 0-3 ft. in elevation; blooms June - September; Rediscovered in 1989 by N. Havlik on Grizzly Isl. in the Suisun Marsh; now known from two occurrences.	No potential to occur. No habitat present.

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Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Dirca occidentalis</i>	western leatherwood	CNPS 1B.2	Occurs in broad-leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland, often on brushy slopes and mesic sites between 165-1310 ft. elevation; blooms January – April.	Low potential to occur. Only remnant disturbed oak woodland and coyote brush are present along freeway margins.
<i>Downingia pusilla</i>	dwarf downingia	CNPS 2B.2	Occurs in vernal pools and mesic sites in valley and foothill grassland between 3-1460 ft. of elevation; blooms March – May.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat.
<i>Juglans hindsii</i>	Northern California black walnut	CNPS 1B.1	Occurs in riparian forest and woodlands in areas with deep alluvial soils associated with creeks or streams. Found between 0-1445 ft. in elevation; blooms April – May.	No potential to occur. No riparian forests in project area, creeks are cleared of woody vegetation.
<i>Lasthenia conjugens</i>	Contra Costa goldfields	FE/ CNPS 1B.1	Occurs in vernal pools, alkaline playas, mesic valley and foothill grassland, between 0-1540 ft. of elevation; blooms March – June.	No potential to occur. Alkaline substrates and preferred wetland habitat absent; only highly disturbed and managed grasslands along freeway within project area.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	CNPS 1B.2	Coastal and estuarine freshwater to brackish marsh and swamps between 0-15 ft. of elevation; blooms May – September.	No potential to occur. No habitat present.
<i>Legenere limosa</i>	legenere	CNPS 1B.1	Vernal pool, ponds and wet areas within valley grassland between 3-2885 ft. of elevation; blooms April – June.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat.

Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	SR/ CNPS 1B.1	Intertidal marshes and streams, including freshwater or brackish marsh, swamp and riparian scrub stream banks between 0-30 ft. of elevation; blooms April - November; Locally common in Suisun Bay.	No potential to occur. No riparian forests in project area, creeks are cleared of woody vegetation.
<i>Limosella australis</i>	Delta mudwort	CNPS 2B.1	Usually found on mud banks or on muddy or sandy intertidal flats, within brackish or freshwater marsh and swamp between 0-10 ft. of elevation; blooms May – August.	No potential to occur. No habitat present.
<i>Madia radiata</i>	showy golden madia	CNPS 1B.1	Occurs on grassy or open slopes, generally on clayey soils or shale between 80-3985 ft. of elevation; blooms March – May.	Low potential to occur. Only highly disturbed and managed grasslands along freeway within project area; clay soils occur between I-680 and Solano Way.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	CNPS 1B.1	Occurs on adobe or alkaline soils in vernal pools or mesic areas within cismontane woodland, meadows and seeps, valley and foothill grassland, and lower montane coniferous forest, between 15-5705 ft. of elevation; blooms April – July.	Alkaline substrates absent; clay soils occur between I-680 and Solano Way; No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat.
<i>Oenothera deltoids</i> ssp. <i>Howellii</i>	Antioch Dunes Evening-primrose	FE 1B.1	The only naturally-occurring populations of Antioch Dunes evening-primrose are in the Antioch Dunes National Wildlife Refuge, which has been designated as Critical Habitat for Antioch Dunes evening-primrose by the U.S. Fish and Wildlife Service. Antioch Dunes evening-primrose grows in mostly pure sand, but unlike other species, it will only re-establish in areas that contain new sand.	No potential to occur. The project site is not within the Antioch Dunes National Wildlife Refuge. No new sand in project area. No suitable habitat present.

CHAPTER 2.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES,
AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Plagiobothrys hystriculus</i>	bearded popcornflower	CNPS 1B.1	Vernal pools, vernal swales and wet grassland margins within valley and foothill grassland between 0-900 ft. of elevation; blooms April – May.	No potential to occur. No vernal pools or appropriate wetland habitat present onsite; County Quarry Products Property to the north may have potential, but highly disturbed habitat.
<i>Polygonum marinense</i>	Marin knotweed	CNPS 3.1	Occurs in coastal salt or brackish marshes and swamps between 0-30 ft. of elevation; blooms April - October; taxonomic issues with the definition of this species.	No potential to occur. No habitat present.
<i>Sanicula maritima</i>	adobe sanicle	SR/ CNPS 1B.1	Found on clay and serpentinite soils within chaparral, coastal prairie, meadows and seeps, and valley and foothill grassland between 100-785 ft. of elevation; blooms February - May; apparently eliminated from the San Francisco Bay Area.	No potential to occur. No serpentine soils present; clay soils occur between I-680 and Solano Way; only highly disturbed and managed grasslands along freeway within project area.
<i>Symphotrichum lentum</i>	Suisun Marsh aster	CNPS 1B.2	Brackish and freshwater marsh and swamp between 0-10 ft. of elevation; blooms May – November.	No potential to occur. No habitat present.
<i>Trifolium amoenum</i>	showy rancheria clover	FE/ CNPS 1B.1	Occurs in open valley and foothill grasslands, and coastal bluff scrub, sometimes occurs on serpentine soils between 15-1360 ft. of elevation; blooms April - June; it is presumed eliminated from all quadrangle occurrences surrounding the project area.	No potential to occur. No serpentine soils present; only highly disturbed and managed grasslands along freeway within project area..
<i>Trifolium hydrophilum</i>	saline clover	CNPS 1B.2	Salt marsh and swamp, vernal pool or other wetlands within valley and foothill grassland on alkaline soils between 0-985 ft. of elevation; blooms April – June.	No potential to occur. Slightly to moderately alkaline soils exist between I-680 and SR-242; only highly disturbed and managed grasslands along freeway within project area.

CHAPTER 2.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES,
AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Scientific Name	Common Name	Status	Typical Habitat	Potential Occurrence within BSA
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	CNPS 1B.1	Occurs in valley and foothill grassland, often alkaline hills, between 3-1490 ft. of elevation; blooms March - April; rediscovered in 2000 on Ft. Hunter Liggett, considered eliminated in the East Bay.	Low potential to occur. No alkaline soils present; only highly disturbed and managed grasslands along freeway within project area.

¹ Status Definitions:

FE= Federally Endangered; FT=Federally Threatened; SE= State Endangered; ST=State Threatened ; SR=State Rare

California Native Plant Society (CNPS):

1A= Presumed Extinct in CA; 1B= Rare, Threatened or Endangered in CA and Elsewhere; 2=Rare, Threatened or Endangered in CA, but More Common Elsewhere; 3= Plants about Which More Information is Needed; 0.1=Seriously Threatened in CA; 0.2= Fairly Threatened in CA; 0.3=Not Very Threatened in CA

2.3.4 ANIMAL SPECIES

REGULATORY SETTING

Many State and Federal laws regulate impacts to wildlife. USFWS, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and the CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or State Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in **Section 2.3.5, Threatened and Endangered Species**. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act (NEPA)
- Migratory Bird Treaty Act (MBTA)
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act (CEQA)
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

AFFECTED ENVIRONMENT

Information in this section is based on the NES (Caltrans 2015g) approved in July 2015. The identification of special-status animal species, with potential to occur in the BSA, is based on a search of the USFWS Species List Database and the CNDDB nine-quadrangle. The searches were centered around the Walnut Creek USGS quadrangle that includes the BSA and locations of field reconnaissance surveys completed for the project.

The database searches identified a list of 53 special-status animal species occurring within the BSA. Of these 53 species, 32 were considered federally and/or State threatened or endangered species. Field reconnaissance surveys of the BSA determined that no habitat is present within the BSA that would support any of the identified species. Owing to lack of suitable habitat within the BSA, from the built-out and urban surrounding environment, these species were withdrawn from further analysis of potential adverse effects (see **Appendix I**).

Fish Species

As discussed in **Section 2.3.1, Natural Communities**, the concrete channel of Pine Creek does not provide suitable habitat for spawning, egg incubation, or juvenile rearing by special-status fish species. There is no fish passage within the project limits.

Bat Species

Three special-status bat species occur in the San Francisco Bay region: Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), and western red bat (*Lasiurus blossevillei*). However, there is no potential for special-status bat species within the Market Street/Clayton Road bridge structure, Willow Pass Road Bridge, or the Willow Pass Park and Ride Bridge based on a lack of suitable roosting habitat and/or suitable nearby foraging habitat.

Other bat species that do not have any special status, but have some potential for roosting within the BSA include: Yuma myotis (*Myotis yumanensis*) and Brazilian free-tailed bat (*Tadarida brasiliensis*).

Bat emergence surveys were conducted at the segment of the Pine Creek culvert that travels under the Market Street/Clayton Road bridge structure within the BSA. No special-status bat species were detected, nor a significant bat maternity colony during the surveys. Four individual Yuma myotis (*Myotis yumanensis*) bats were detected roosting under the south side of the bridge. This species is very common in the San Francisco Bay Area. The bats were found roosting within expansion joints in the underside of the bridge on the south side of the structure, and were observed to exit to the south when leaving in the evenings to forage.

Migratory Birds

The MBTA (16 USC 703) protects migratory birds, their occupied nests, and their eggs. Removal or disturbance of active nests would be in violation of these regulations. All migratory bird species and their parts (including eggs, nests, and feathers) are fully protected by the MBTA. Section 3503 of the CDFW Code states that, "it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

Some trees within and adjacent to the BSA may provide potential breeding and nesting habitat for bird species common to the area. Approximately 25 species of birds that are protected under the MBTA have been documented to occur within the BSA. As a result, numerous bird species may breed and nest within and adjacent to the BSA.

The vertical concrete walls on bridge structures provide nesting habitat for cliff swallows (*Petrochelidon pyrrhonota*), barn swallows (*Riparia riparia*), and black phoebes (*Sayornis nigricans*). The older trees found in the oak and non-native woodlands may provide habitat for tree cavity nesting birds observed foraging in the BSA such as oak titmouse (*Baeolophus inornatus*), chestnut-backed chickadee (*Poecile rufescens*), and Northern flicker (*Colaptes auratus*). Birds observed foraging inside the BSA that build cup-shaped nests in dense vegetation in urban settings include house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), California towhee (*Melospiza crissalis*), and western scrub-jay (*Aphelocoma californica*). Anna's hummingbird

(*Calypste anna*), build small cryptic nests, especially in eucalyptus and oaks like those found during surveys of the BSA. Another bird observed in the BSA, the bushtit (*Psaltiriparus minimus*), builds hanging nests from tree branches and has been known to nest in urban settings.

ENVIRONMENTAL CONSEQUENCES

The BSA encompasses the footprint of both Build Alternatives. No suitable habitat is present within the BSA that would support any of the identified species; therefore, project impacts discussed below apply to both Build Alternatives 1 and 2.

Build Alternatives 1 and 2

The Build Alternatives would have no impacts to protected fish species and/or fish as the portions of Pine Creek within the BSA do not provide suitable habitat. No work is planned within the Pine Creek channel.

No impacts to special-status bats are expected from project construction. No special-status bats or their habitat were observed within the BSA.

Additionally, no impacts to roosting bats are expected from project construction. Four individual Yuma myotis bats were detected roosting under the south side of the Market Street/Clayton Road bridge that travels under the Market Street/Clayton Road intersection. The exposed, well-lit environment eliminated the potential for the bridge to support maternity roosts. Because construction activities will include only surface treatment of the roadway (grading/gravel/paving), impacts to this small colony of Yuma myotis are unlikely. Bats have been documented to tolerate vibrations from road work above their roosts, and can move short distances within bridge structures in response to vibrations and noise. Road work only impacts bat colonies through exposure of the roost, or from foreign materials (water, tar, gravel) being directly introduced into the roost. Excluding the bats from this location would likely cause more harm than the proposed construction work, since the bats would be displaced from a well-protected roost site. No impacts to migratory birds protected by the MBTA are expected with the implementation of the avoidance measures designed to protect migratory birds (see **Measures BIO-1** and **BIO-2**).

No-Build Alternative

The No-Build Alternative assumes that SR 242 would remain in its existing condition and no further action or improvements would occur. The No-Build Alternative would therefore not affect special-status animal species.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following measures are recommended to avoid or minimize potential impacts to migratory birds and the nesting habitat within the BSA.

Measure BIO-1: For most bird species in the vicinity, the non-breeding season is September 1 through January 31. If vegetation removal outside of these dates is necessary, a qualified wildlife biologist will conduct a preconstruction survey within 72 hours of construction and/or vegetation

removal to locate any nesting birds. If any active nests are discovered, the USFWS/CDFW will be contacted to determine protective measures required to avoid take. These measures could include fencing off an area where a nest occurs, or shifting construction work temporally or spatially away from the nesting birds.

Qualified biologists may be required to monitor construction every day while protected migratory birds are in the BSA and/or nesting there. If an active nest is found after the completion of the pre-construction surveys and after construction begins, all construction activities will stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest (300 feet from active raptor nests or 50 feet from active passerine¹ nests). If establishment of the buffer is not feasible, USFWS/CDFW will be contacted for further avoidance and minimization guidelines.

Measure BIO-2: During construction, suitable exclusion devices, such as appropriately sized netting, would need to be installed before February 1 of each construction year. These exclusion structures would be left in place, monitored by qualified biologists every day, and maintained through August 31 of each breeding season, or until work is complete.

CUMULATIVE IMPACTS

The cumulative impacts setting includes special-status animal species within and surrounding the BSA. Cumulative effects to special-status animal species would occur if planned and foreseeable development results in the take or disruption of special-status animal species or their associated habitat on a regional level, when taken in combination with the proposed project. The General Plan EIR determined that proposed development in the area could potentially result in take or disruption of special-status animal species and habitat, which would be a cumulative effect. As discussed, no special-status animal species or habitat are located within the BSA; therefore, the Build Alternatives would not contribute to a cumulative effect.

2.3.5 THREATENED AND ENDANGERED SPECIES

REGULATORY SETTING

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a

¹ A passerine nest includes birds from the order Passeriformes, comprising more than half of all birds. Passerine birds are typically considered to be perching birds.

Letter of Concurrence, and/or documentation of a No Effect finding. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the State level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The CDFW is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by the CDFW. For species listed under both the FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

AFFECTED ENVIRONMENT

As discussed in **Section 2.3.4, Animal Species**, the database search identified 32 special-status species with the potential to occur within the BSA that were considered Federally and/or State threatened or endangered species. Owing to lack of suitable habitat within the BSA from the built-out and urban surrounding environment, these species are not analyzed further. No habitat is located within the BSA which would support potential occurrence of federally and/or State threatened or endangered species.

ENVIRONMENTAL CONSEQUENCES

The BSA encompasses the footprint of both Build Alternatives. No suitable habitat is present within the BSA that would support any of the identified species; therefore, project impacts discussed below apply to both Build Alternatives.

Build Alternatives 1 and 2

No habitat within the BSA would support potential occurrence of Federally and/or State threatened or endangered species (see **Appendix I**). Caltrans, under the authority of the FHWA, has determined that this project would have “no effect” on listed species, their habitats, or protected communities. No adverse modification to any species critical habitat would occur as a result of project activities. The “no effects” determination has been made for the following Federally-listed species:

- Central California Coastal steelhead
- Central Valley chinook salmon
- Central Valley steelhead
- Coho salmon
- California red-legged frog
- California tiger salamander

No-Build Alternative

The No-Build Alternative assumes that SR 242 would remain in its existing condition and no further action or improvements would occur. Under this alternative, the existing roadways would remain unchanged except for planned and programmed improvements. The No-Build Alternative would therefore not affect threatened or endangered species.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are necessary because the Build Alternatives would not have adverse effects on threatened or endangered species.

CUMULATIVE IMPACTS

The cumulative impacts setting includes threatened and endangered animal species within and surrounding the BSA. Cumulative effects to threatened and endangered animal species would occur if planned and foreseeable development results in the take or disruption of threatened and endangered animal species or their associated habitat on a regional level, when taken in combination with the proposed project. The General Plan EIR determined that proposed development in the area could potentially result in take or disruption of threatened and endangered animal species and habitat, in particular, the western pond turtle, California tiger salamander, and California red-legged frog. Take or disruption of these species would be a cumulative effect. As discussed, the Build Alternatives would have no effects on threatened and endangered animal species or habitat; therefore, the Build Alternatives would not contribute to a cumulative effect.

2.3.6 INVASIVE SPECIES

REGULATORY SETTING

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” FHWA guidance issued August 10, 1999 directs the use of the state’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

AFFECTED ENVIRONMENT

Information in this section is based on the NES (Caltrans, 2015g) approved in July 2015. As described in **Section 2.3.1, Natural Communities**, non-native woodland and ruderal vegetation within the BSA are present throughout much of the SR 242 corridor. Weedy non-native species within the BSA include Bermuda buttercup (*Oxalis pes-caprae*), common wild oat (*Avena fatua*), creeping Bermuda grass (*Cynodon dactylon*), dissected geranium (*Geranium dissectum*), English ivy (*Hedera helix*), field hedge-parsley (*Torilis arvensis*), French broom (*Genista monspessulana*), giant river reed (*Arundo donax*), greater periwinkle (*Vinca major*), Himalayan blackberry (*Rubus armeniacus*), Italian thistle (*Carduus pycnocephalus*), mouse barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), silver wattle mimosa (*Acacia dealbata*), and slender wild oat (*Avena barbata*).

ENVIRONMENTAL CONSEQUENCES

The BSA encompasses the footprint of both Build Alternatives. Invasive species, including non-native woodland and ruderal vegetation, were identified throughout much of the BSA. Project impacts discussed below apply to Build Alternatives 1 and 2.

Build Alternatives 1 and 2

The Build Alternatives are expected to have a minimal effect on the distribution of invasive species within the BSA. The area is currently colonized by numerous invasive species of plant and wildlife, and the proposed improvements are not expected to result in the colonization of additional species. None of the species on the California list of noxious weeds is currently used by Caltrans for erosion control or landscaping. All equipment and materials will be inspected for the presence of invasive species.

No-Build Alternative

The No-Build Alternative will make no physical or operational improvements to SR 242 or the connecting roadways within the BSA. The No-Build Alternative would therefore not affect invasive species.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The Build Alternatives are expected to have a minimal effect on the distribution of invasive species within the BSA. The following measures are recommended to avoid or minimize potential impacts to invasive species during project construction, thereby reducing any potential adverse effects related to the spread of invasive species:

Measure BIO-3: In compliance with the Executive Order on Invasive Species, Executive Order (EO 13112), and guidance from the FHWA, the landscaping and erosion control included in the project will not use species listed as invasive.

All areas that are temporarily affected during construction will be revegetated with an assemblage of native grass, shrub, and tree species to restore habitat values. Invasive, exotic plants will be controlled within the BSA to the maximum extent practicable pursuant to EO 13112.

CUMULATIVE IMPACTS

The cumulative impacts setting includes invasive species within and surrounding the BSA. Cumulative effects to invasive species would occur if planned and foreseeable development in the area results in the spread or distribution of invasive species, when taken in combination with the proposed project. All projects would comply with EO 13112, which requires all federal agencies prevent the introduction of invasive species and provide for restoration of native species. Therefore, there would be no cumulative impact to invasive species.